ABSTRACT

A method for generating a substantially sinusoidal waveform containing encoded digital data having one of a first value and a second value at selected phase angles θ_n comprises generating the waveform having an amplitude Y defined by a first function at phase angles lying outside of regions having a range $\Delta\theta$ beginning at each phase angle θ_n, said first function being $Y=sin\theta$; generating the waveform having an amplitude Y defined by the first function at phase angles lying inside the regions having a range of $\Delta\theta$ beginning at each phase angle θ_n where data of the first value is to be encoded; and generating the waveform having an amplitude Y defined by a second function at phase angles lying inside the regions having a range of $\Delta\theta$ associated with each phase angle θ_n where data of the second value is to be encoded, the second function being different from $Y=sin\theta$.